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Applicant: Nokia Corporation

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Claims 1 to 41

10 1. A method for routing a message or message set or session setup request from a first network to a second network, the message or message set or session set up request comprising a first type of address, comprising steps of:

15 checking if the first type of address is transformable to a second type of address using a first database in the first network,

 checking requirements of message or set of messages or session from the message or message set or session set up request, and

20 deciding based on the result of the requirements checking step, on the routing of the message or message set or session setup request, wherein the session or message set or session set up request is released based on the result of the requirement check in the first network.

 2. A method according to claim 1, comprising a step of deriving the address of a contact point of the second network in the first network,

30 wherein the message or message set or session setup request is forwarded to the second network using the contact point of the second network.

35 3. A method according to claim 2, wherein the deriving step is done using a second database.

4. A method according to any of the preceding claims,
wherein the message or message set or session set up
request is forwarded to the contact point, the method
5 further comprising the steps of:

deriving the routing address of the session set up
request or message or message set in the second network
using a third database;

10 routing the session set up request or message or
message set from the contact point to a further network
entity based on the derived address.

5. Method according to claims 1 or 4, wherein the
checked requirements include media requirements of the
15 message or set of messages or requested session.

6. Method according to claim 1 or 4, wherein the
checked requirements include QoS requirements of the
message or set of messages or requested session.

20 7. Method according to any one of the preceding
claims, wherein a Serving Call State Control Function (S-
CSCF) performs the requirement checking step.

25 8. Method according to any one of the preceding method
claims, wherein a Breakout Gateway Control Function (BGCF)
performs the requirement checking step.

30 9. Method according to any one of the preceding
claims, wherein said first or second network or another
network involved in routing the message or session setup
request, includes a Call State Control Function (CSCF) and
a Breakout Gateway Control Function (BGCF), the Call State
Control Function (CSCF) and the Breakout Gateway Control
35 Function (BGCF) being adapted to utilize at least partly

different DNS databases for translating an identifier of an equipment indicated in the message or session setup request, into a routing information.

5 10. Method according to any one of the preceding claims, wherein a Control Function, preferably a Dividing Gateway Control Function (DGCF), performs the requirement checking step and takes care of routing incoming traffic from IP multimedia networks.

10 11. Method according to any one of the preceding claims, wherein the second network includes a breakout element, preferably a Breakout Gateway Control Function (BGCF), and an interrogating element, preferably an
15 Interrogating Call State Control Function (I-CSCF), and an additional path is provided from the breakout element to the interrogating element for routing a message or message set or session setup request.

20 12. Method according to claim 11, wherein, when an identifier of the second network included in the message or message set or session setup request indicates a valid IMS identity, the message or message set or session setup request is routed from the breakout element to the
25 interrogating element, otherwise the message or message set or session setup request is routed to a media gateway element, preferably a Media Gateway Control Function (MGCF).

30 13. Method according to claim 12, wherein, when the message or message set or session setup request is routed from the breakout element to the interrogating element, the breakout element is adapted to drop itself out so that the routing is a normal IMS session.

14. A method according to any of the preceding claims wherein the contact point is an I-CSCF, BGCF or DGCF.

15. A method according to any of the preceding claims wherein the first database is an ENUM DNS database and comprises IMS E.164 identities of the subscribers who have the first network as a home network.

16. Method according to claim 1, wherein the first database contains E.164 identities of trusted operators.

17. Method according to any of the preceding claims wherein the first type of address is an E.164 identity and the second type of address is a routable IMS identity.

18. Method according to any one of the preceding claims wherein the routable IMS identity is a SIP URI or SIPS URI.

19. A method for routing a message, message set or a session set up request in a communication network from a first network of a first type to a second network of a second type, comprising the steps of:

initiating a message, message set or a session setup request in the first network

routing the message, message set or session set up request from the first network to a media gateway element of the second network and

routing the message, message set or session set up request from the media gateway element to a breakout element in the second network, wherein the second network includes a breakout element, preferably a Breakout Gateway Control Function (BGCF), and a media gateway element, preferably a Media Gateway Control Function (MGCF).

20. A system for routing a message or message set or session setup request from a first network to a second network, the message or message set or session set up request comprising a first type of address, comprising:

checking means for checking if the first type of address is transformable to a second type of address using a first database in the first network,

10 further checking means for checking requirements of message or set of messages or session from the message or or message set or session set up request, and

deciding means for deciding, based on the result of the further checking means, on the routing of the message or message set or session setup request,

15 wherein the system is adapted to release the session or message set or session set up request based on the result of the requirement check in the first network.

21. A system according to claim 20, comprising means
20 for deriving the address of a contact point of the second network in the first network,

wherein the system is adapted to forward the message or message set or session setup request to the second network using the contact point of the second network.

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22. A system according to claim 21, wherein the deriving means is adapted to access a second database.

23. A system according to any of the preceding system
30 claims, wherein the message or message set or session set up request is forwarded to the contact point, the system further comprising:

means for deriving the routing address of the session set up request or message or message set in the second
35 network using a third database;

means for routing the session set up request or message or message set from the contact point to a further network entity based on the derived address.

5 24. A system according to claims 20 or 23, wherein the checked requirements include media requirements of the message or set of messages or requested session.

10 25. A system according to claim 20 or 21, wherein the checked requirements include QoS requirements of the message or set of messages or requested session.

15 26. A system according to any one of the preceding system claims, comprising a serving control function, preferably a Serving Call State Control Function (S-CSCF), for performing the requirement check.

20 27. A system according to any one of the preceding system claims, comprising a Breakout Gateway Control Function (BGCF) for performing the requirement checking step.

25 28. A system according to any one of the preceding system claims, wherein said first or second network or another network involved in routing the message or session setup request, includes a Call State Control Function (CSCF) and a Breakout Gateway Control Function (BGCF), the Call State Control Function (CSCF) and the Breakout Gateway Control Function (BGCF) being adapted to utilize at least
30 partly different DNS databases for translating an identifier of an equipment indicated in the message or session setup request, into a routing information.

35 29. A system according to any one of the preceding system claims, wherein a Control Function, preferably a

Dividing Gateway Control Function (DGCF), is provided for performing the requirement check and for taking care of routing incoming traffic from IP multimedia networks.

5 30. A system according to any one of the preceding system claims, wherein the second network includes a breakout element, preferably a Breakout Gateway Control Function (BGCF), and an interrogating element, preferably an Interrogating Call State Control Function (I-CSCF), and
10 an additional path is provided from the breakout element to the interrogating element for routing a message or message set or session setup request.

15 31. A system according to claim 30, wherein, when an identifier of the second network included in the message or message set or session setup request indicates a valid IMS identity, the message or message set or session setup request is routed from the breakout element to the
20 interrogating element, otherwise the message or message set or session setup request is routed to a media gateway element, preferably a Media Gateway Control Function (MGCF).

25 32. A system according to claim 31, wherein, when the message or message set or session setup request is routed from the breakout element to the interrogating element, the breakout element is adapted to drop itself out so that the routing is a normal IMS session.

30 33. A system according to any of the preceding system claims, wherein the contact point is an I-CSCF, BGCF or DGCF.

35 34. A system according to any of the preceding system claims wherein the first database is an ENUM-DNS database

and comprises IMS E.164 identities of the subscribers who have the first network as a home network.

35. A system according to claim 20, wherein the first database contains E.164 identities of trusted operators.

36. A system according to any of the preceding system claims, wherein the first type of address is an E.164 identity and the second type of address is a routable IMS identity.

37. A system according to any one of the preceding system claims, wherein the routable IMS identity is a SIP URI or SIPS URI.

38. A system for routing a message, message set or a session set up request in a communication network from a first network of a first type to a second network of a second type, comprising:

means for initiating a message, message set or a session setup request in the first network,

means for routing the message, message set or session set up request from the first network to a media gateway element of the second network and

means for routing the message, message set or session set up request from the media gateway element to a breakout element in the second network,

wherein the second network includes a breakout element, preferably a Breakout Gateway Control Function (BGCF), and a media gateway element, preferably a Media Gateway Control Function (MGCF).

39. A Control Function for use in a system as defined in any one of the preceding system claims, which system is adapted for routing a message or message set or session

setup request from a first network to a second network,
wherein the Control Function is adapted to check
requirements of the message or message set or session from
the message or message set or session set up request, and
5 to decide, based on the result of the check, on the routing
of the message or message set or session setup request.

40. Control Function according to claim 39, wherein
the Control Function is a Serving Call State Control
10 Function, S-CSCF.

41. Control Function according to claim 39, wherein
the Control Function is a Breakout Gateway Control
Function, BGCF.